

10 Common Software Architectural Patterns in a nutshell

Translation: 10种常见的软件体系结构模式

Ever wondered how large enterprise scale systems are designed? Before major software development starts, we have to choose a suitable architecture that will provide us with the desired functionality and quality attributes. Hence, we should understand different architectures, before applying them to our design.

Translation: 有没有想过大型企业级系统是如何设计的？在主要的软件开发开始之前，我们必须选择一个合适的体系结构，为我们提供所需的功能和质量属性。因此，在将不同的体系结构应用于我们的设计之前，我们应该了解它们。

What is an Architectural Pattern?

Translation: 什么是建筑模式？

According to Wikipedia,

Translation: 根据维基百科，

An architectural pattern is a general, reusable solution to a commonly occurring problem in software architecture within a given context. Architectural patterns are similar to software design pattern but have a broader scope.

Translation: 体系结构模式是对给定上下文中软件体系结构中常见问题的通用、可重用的解决方案。体系结构模式与软件设计模式相似，但范围更广。

In this article, I will be briefly explaining the following 10 common architectural patterns with their usage, pros and cons.

Translation: 在本文中，我将简要解释以下10种常见的体系结构模式及其用法、优点和缺点。

Layered pattern

Translation: 分层图案

Client-server pattern

Translation: 客户端-服务器模式

Master-slave pattern

Translation: 主从模式

Pipe-filter pattern

Translation: 管道过滤器样式

Broker pattern

Translation: Broker模式

Peer-to-peer pattern

Translation: 对等模式

Event-bus pattern

Translation: 事件总线模式

Model-view-controller pattern

Translation: 模型视图控制器模式

Blackboard pattern

Translation: 黑板图案

Interpreter pattern

Translation: 解析器模式

1. Layered pattern

Translation: 1. 分层图案

This pattern can be used to structure programs that can be decomposed into groups of subtasks, each of which is at a particular level of abstraction. Each layer provides services to the next higher layer.

Translation: 这种模式可以用于构建程序，这些程序可以分解为子任务组，每个子任务都处于特定的抽象级别。每一层都向下一个更高层提供服务。

The most commonly found 4 layers of a general information system are as follows.

Translation: 一般信息系统中最常见的4层如下。

Presentation layer (also known as UI layer)

Translation: 表示层 (也称为UI层)

Application layer (also known as service layer)

Translation: 应用层 (也称为服务层)

Business logic layer (also known as domain layer)

Translation: 业务逻辑层 (也称为域层)

Data access layer (also known as persistence layer)

Translation: 数据访问层 (也称为持久层)

Usage

Translation: 用法

General desktop applications.

Translation: 通用桌面应用程序。

E commerce web applications.

Translation: 电子商务web应用程序。

2. Client-server pattern

Translation: 2.客户端-服务器模式

This pattern consists of two parties; a server and multiple clients. The server component will provide services to multiple client components. Clients request...

Translation: 这种模式由两个方面组成; 一个服务器和多个客户端。服务器组件将向多个客户端组件提供服务。客户端请求...